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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,080

05/30/2006

Willem Marie Julia Marcel Coene

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

WILLIAMS, HOWARD L

ART UNIT

PAPER NUMBER

2819

MAIL DATE

DELIVERY MODE

03/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,080	Applicant(s) COENE ET AL.	
	Examiner Howard Williams	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4-9 are rejected under 35 U.S.C. 103(a) as unpatentable over Maeda et al (US 5808988 A) in view of Rapp (EP 1441344 A1). Maeda et al. disclose an optical recording/reproduction system that uses closely spaced rows (fig. 2) and includes an equalization filter (114; fig. 2) to perform two-dimensional equalization to reduce inter-symbol interference and crosstalk leakage between adjacent tracks (col. 12, lines 62-65). It provides an adaptive coefficient learning for determination of the equalizer coefficients to use in the filter (cols. 9-12). Maeda et al. provides for a "quantizier" detection to determine the bit values but may not disclose "2D symbol detector." Rapp discloses an optical storage system and reading circuit that includes a limit equalizer to reduce intersymbol interference and boost high frequency response [0012]. Rapp discloses [0006] and [0007] that the use of equalization and prml detection are typically used to mitigate these problems and recover the stored data. The use of least mean square adaptation for the equalization coefficients is also common and disclosed in these sections. Rapp further identifies the PRML detection as a Viterbi dectector (110; fig. 1). It would have been obvious to combine the equalization and PRML detection of Rapp with the equalization of Maeda to improve bit detection reliability in high density optical storage systems.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as unpatentable over Maeda et al (US 5808988 A) in view of Rapp (EP 1441344 A1) and Coene (WO 03/034596 A1). Maeda et al. nor Rapp appear to disclose guard bands explicitly. Coene discloses the use of guard bands in multi-dimensional coding schemes for optical storage (page 13, line 12). Incorporation of guard bands as disclosed in Coene for the storage system of Maeda et al would have been obvious because the guard band would provide a measure of additional isolation between the closely space tracks thereby improving detection capability.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as unpatentable over Coene (WO 03/034596 A1) in view of Rapp (EP 1441344 A1). Coene discloses a high density optical storage system with multiple rows adjacent forming tracks. The primary discussion in Coene WO 03/034596 is the coding utilized but the recording/reproduction is depicted in a block form in fig. 14 which includes a typical coding and signal processing elements (p. 2, line 23) and includes equalization (60; figure 14) and a detector (70; figure 14) (p. 3, lines 1-5). Rapp discloses an optical storage system and reading circuit that includes a limit equalizer to reduce intersymbol interference and boost high frequency response **[0012]**. Rapp discloses **[0006]** and **[0007]** that the use of equalization and prml detection are typically used to mitigate these problems and recover the stored data. The use of least mean square adaptation for the equalization coefficients is also common and disclosed in these sections. Rapp further identifies the PRML detection as a Viterbi dectector (110; fig. 1). It would have been obvious to

provide particular equalization and detection elements like those disclosed by Rapp, well known together from earlier generation storage systems, in Coene, that seemingly provides these blocks in the typical signal processing, to provide an efficient high density storage system. The combination would have been obvious because the increasing demand for greater storage capacity system on convenient mediums, such as discs, would have profound market impact.

Any inquiry concerning this communication should be directed to Howard L. Williams at telephone number 571.272.1815. The Patent and Trademark Office central facsimile number for application specific correspondence intended for entry is 571-273-8300.

2/22/08
Voice: (571) 272-1815

/Howard L. Williams/
Howard L. Williams
Primary Examiner
Art Unit 2819